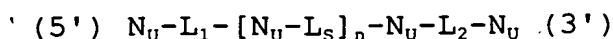


**WHAT IS CLAIMED IS:**

1. A compound comprising a plurality of covalently-bound nucleosides, said compound having the formula:



5 wherein:

each  $N_u$  is, independently, a nucleoside that includes a ribose or deoxyribose sugar portion and a base portion;

L<sub>s</sub> is a racemic phosphorothioate internucleoside linkage;

10            n is 1-200; and

$L_1$  and  $L_2$  are independently selected such that:

L<sub>1</sub> is a Sp phosphorothioate internucleoside linkage, L<sub>2</sub> is a racemic phosphorothioate internucleoside linkage, and said compound has greater than about 60% stereoisomeric purity; or

L<sub>1</sub> and L<sub>2</sub> both are Sp phosphorothioate internucleoside linkages and said compound has greater than about 60% stereoisomeric purity; or

L<sub>1</sub> is a Rp phosphorothioate internucleoside linkage, L<sub>2</sub> is a racemic phosphorothioate internucleoside linkage, and said compound has greater than about 60% stereoisomeric purity; or

L<sub>1</sub> and L<sub>2</sub> both are Rp phosphorothioate internucleoside linkages and said compound has greater than about 60% stereoisomeric purity; or

L<sub>1</sub> and L<sub>2</sub>, independently, have the formula CH<sub>2</sub>-O-NR or CH<sub>2</sub>-NR-O wherein R is H, alkyl having 1 to about 10 carbon atoms, alkenyl having 2 to about 10 carbon atoms, alkynyl having 2 to about 10 carbon atoms; alkaryl having 7 to about 14 carbon atoms, aralkyl having 7 to about 14 carbon atoms.

Sub A<sup>1</sup> 2. The compound of claim 1 wherein  $L_1$  is a Sp phosphorothioate internucleoside linkage and  $L_2$  is a racemic phosphorothioate internucleoside linkage.

3. The compound of claim 1 wherein  $L_1$  and  $L_2$  both are Sp phosphorothioate internucleoside linkages.

4. The compound of claim 1 wherein  $L_1$  is a Rp phosphorothioate internucleoside linkage and  $L_2$  is a racemic phosphorothioate internucleoside linkage.

5. The compound of claim 1 wherein  $L_1$  and  $L_2$  both are Rp phosphorothioate internucleoside linkages.

6. The compound of claim 1 wherein  $L_1$  or  $L_2$  is  $\text{CH}_2\text{-O-NR}$ .

7. The compound of claim 1 wherein  $L_1$  or  $L_2$  is  $\text{CH}_2\text{-NR-O}$ .

15 8. The compound of claim 1 wherein  $L_1$  and  $L_2$  are both  $\text{CH}_2\text{-O-NR}$ .

9. The compound of claim 1 wherein  $L_1$  and  $L_2$  are both  $\text{CH}_2\text{-NR-O}$ .

10. The compound of claim 1 wherein R is alkyl.

20 11. The compound of claim 1 wherein R is methyl.

12. The compound of claim 1 wherein at least one of said nucleosides includes a ribose sugar portion.

Sub 91 13. The compound of claim 1 wherein at least one of said nucleosides includes a deoxyribose sugar portion

14. The compound of claim 1 wherein n is about 5 to about 50.

5 15. The compound of claim 1 wherein n is about 8 to about 30.

16. A composition comprising a compound of claim 1 and an acceptable carrier.

10 17. A method of modulating the production or activity of a protein in an organism, comprising contacting said organism with a compound of claim 1.

Sub 02 18. A method of treating an organism having a disease characterized by the undesired production of a protein, contacting said organism with a compound of claim 1.

15 19. A method of assaying a nucleic acid, comprising contacting a solution suspected to contain said nucleic acid with a compound of claim 1.